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MIT Is Crafting Cheap -- But Invaluable -- Laptops; Kids in Poor Nations Would Benefit

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A riddle: What has the durability of a sneaker, the smarts of a computer, the color scheme of a lunchbox and the potential to alter almost everything about the way schoolchildren in the developing world learn?

The answer: well, nothing yet.

But now, scientists at the Massachusetts Institute of Technology say they're close to creating a device that would fulfill this ambitious vision -- a tough, kid-friendly laptop that could be sold to poor countries for \$100.

A prototype of this computer will be unveiled Wednesday at a U.N. conference in Tunisia. Its designers concede that the prototype is still missing some crucial features, such as a cheap display screen and a hand crank that would provide power.

But high expectations are already standard.

"It will change . . . the way children everywhere think about themselves in relation to the world," said Seymour Papert, a professor emeritus of education and media technology at MIT, believing that the result may be less violence and dissension as kids plug into education and international culture.

The laptop project has garnered some doubters, who wonder how useful its wireless connections will be in villages where access to the Internet is expensive or nonexistent. Some have also expressed concern about whether, despite their distinctive coloring, millions of the laptops will really get to and remain in the hands of children.

The leaders of the "\$100 Laptop Initiative" said they wanted a machine that would substitute -- at one stroke -- for computers, textbooks, libraries, maps and movies that may be missing from poor children's lives.

"None of that's there in an African village," Papert said. "How can we give it to them?"

Some of the tools were already there. The designers decided to use "open source" software because it meant fewer problems with licensing fees, and they were able to get a cheap processor similar to those in home computers. The \$100 laptops probably will sacrifice some of the memory that Americans are used to, designers said.

The display screen was more problematic. In regular laptops, that alone can be worth much more than \$100. For this laptop, the display needed to be much cheaper -- around \$35 -- and it needed to do more, including switch to read vertically like the page of a book.

"We call that the 'Curl up in a bed' mode," and it's crucial to a child using the computer outside school, said Kenneth Jewell, an "envisioner" at Design Continuum, the firm in West Newton, Mass., that was hired to design the laptop's exterior.

Even the color was a question. Designers didn't want something that screamed "for little kids only," out of fear that teenagers would reject the laptops as uncool. But they did want something distinctive enough to deter adults from stealing and selling them.

"What we wanted to do is basically design in a social stigma," said Kevin Young, another Design Continuum employee. "When you see the laptop, you automatically associate it with education," he said, a quality that designers hope will make it as unattractive to thieves as a yellow school bus.

The product of all this will be made public at the United Nations' World Summit on the Information Society, when Secretary General Kofi Annan and MIT Media Lab Chairman **Nicholas Negroponte** unveil a green-and-yellow computer with a sheath of black rubber around its edges.

Some elements still aren't ready. The screen on this prototype will still be of the old, expensive type, and the hand crank will be for show only. The hope is to solve these problems and begin production of the laptops by late 2006.

The laptop designers are confident, noting that they have already heard some interest from the education ministries in Brazil and Thailand. Negroponte -- the brother of National Intelligence Director John D. Negroponte -- said there will be a good way to see the device's impact on the lives of poor children.

Their "first English word will be 'Google,' " he wrote in an e-mail.

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